

REMARKS

Status of the claims:

With the above amendments, claims 4, 6 and 8 have been canceled and claims 1, 3, 5, 7, and 11 have been amended. Thus, claims 1-3, 5, 7, and 9-12 are pending and ready for further action on the merits. No new matter has been added by way of the above amendments. Support for the amendments can be found at page 16, lines 12-14 and in original claims 4, 6, and 8 (with claims 1, 5, and 7 having the subject matter of claims 4, 6, and 8 incorporated into them, respectively). Reconsideration is respectfully requested in light of the following remarks.

Rejections under 35 USC §102

Claims 1-12 are rejected under 35 USC §102(b) as being anticipated by EP '301 (EP 0 410 301 A1).

Applicants traverse.

EP '301 discloses a flame retardant thermoplastic molding material comprising:

- A) 10-98 wt. % of a partly aromatic copolyamide made up of
 - a1) 40-90 wt. % of units derived from terephthalic acid and hexamethylenediamine,
 - a2) 0-50 wt. % of units derived from ϵ - caprolactam, and

- a3) 0-60 wt.% of units derived from adipic acid and hexamethylenediamine with a2) and a3 making up at least 10 wt. % of the total units;
- B) 1-30 wt. % of a brominated polystyrene and/or brominated styrene oligomer;
- C) 1-15 wt. % of a synergistic metal oxide and/or metal borate;
- D) 0-60 wt. % of a fibrous and/or particulate filler; and
- E) 0-20 wt. % of an elastomeric polymer.

Please see claim 1 of EP '301.

EP '301 fails to disclose or suggest a flame-retardant composition, a flame-retardant pelletized polyamide resin composition or a formed article of flame-retardant polyamide comprising:

- A) an aromatic polyamide having an MFR of 40 to 300g/10 minutes, determined at a load of 2,160g and at a temperature of 10°C plus melting point, and
- C) a polybrominated styrene having an MFR of 40 to 400g/10 minutes, determined at a load of 1,200 g and at a temperature of 270°C using an orifice having a diameter of 2.095 mm, and/or having a weight-average molecular weight of 2,000 to 500,000 of the present invention.

The present invention has been accomplished based on the finding that the combination of an aromatic polyamide having a specific MFR range as described above and a polybrominated styrene having a specific MFR and/or weight-average molecular weight range in the flame-retardant polyamide composition in a specific ratio allows the polybrominated styrene particles to be dispersed in the polyamide in such a way as to have a number-average particle size of less than $0.9\mu\text{m}$ as described at page 8, lines 8-12 of the written description.

Based on the above finding, the polyamide composition of the instant invention is excellent in flame retardancy, good in flowability and high in toughness, which has enabled the inventors to use the composition, for the first time, in electric and electronic device members. Please see page 4, lines 8-12 of the written description. EP '301 has no disclosure or remotely any suggestion of the relationship between a specific MFR and /or weight-average molecular weight range. Accordingly, EP '301 fails to disclose or suggest the instant invention.

EP '301 discloses the use of a brominated polystyrene and/or brominated styrene oligomer as a bromine-based flame retardant.

However, the brominated styrene oligomer represented by formula (I) at page 5 of EP '301 has recurring units (n) of 1 to

88. The artisan of ordinary skill can easily estimate the MFR and weight-average molecular weight of the oligomer to be more than 400g/ 10 minutes and less than 2,000, respectively. It is noted that both of these values from EP '301 are outside the scope of the instantly claimed invention.

Further, the brominated polystyrene produced by brominating the polystyrene in EP '301 also contains bromine to some extent in the alkyl chain that forms the main skeleton of the polymer. Therefore, it has inferior heat-resistance to the polybrominated styrene produced by the polymerization of brominated styrene as described in the present invention. Please see page 16 line 22 to page 17, line 2 as well as page 16, lines 12-14 of the present specification.

The flame retardant polyamide composition of the present invention, as claimed, has a number-average particle size of less than 0.9 μm , which results in a composition that has excellent flowability when molten under heating. The composition has excellent toughness and resistance to heat and has a fracture energy of 37 mJ or more and thin walled flowability of 60 mm or more.

Because EP '301 does not disclose or suggest a flame-retardant polyamide composition comprising the combination of a specific aromatic polyamide and a specific polybrominated styrene as disclosed in the instant invention, EP '301 cannot

anticipate nor render obvious the instant invention. This is because EP '301 simply fails to disclose the features of the instantly claimed invention. Withdrawal of the rejection is warranted and respectfully requested.


With the above remarks and amendments, Applicant believes that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

If any questions remain regarding the above matters, please contact Applicant's representative, T. Benjamin Schroeder (Reg. No. 50,990), in the Washington metropolitan area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #36,623
Raymond C. Stewart, #21,066

RCS/TBS/mua

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000